

JOURNAL OF CATALYSIS

EDITORS

L. Haller, *Yale University*

Frank S. Stone, *University of Bath*

ASSOCIATE EDITOR

Robert S. Weber, *Yale University*

EDITORIAL BOARD

Robert M. Bell
*University of California
Berkeley*

John W. Bradley
Res. & Eng. Comp.

William E. Burwell, Jr.
Western University

John A. Butt
Western University

John F. Delgass
University

Walter E. Eischens
University

Alfred F. Fozzard
Villeurbanne

John A. Haag
Res. & Dev. Corp.

W. K. Hall
University of Pittsburgh

J. W. Hightower
Rice University

Y. Iwasawa
University of Tokyo

V. B. Kazansky
Zelinsky Inst. of Organic Chem.

H. Knözinger
University of Munich

J. H. Lunsford
Texas A&M University

J. B. Peri
Northeastern University

J. J. F. Scholten
Delft University of Technology

K. Tamaru
Science University of Tokyo

Henrik Topsøe
Haldor Topsøe A/S

M. A. Vannice
Pennsylvania State University

R. A. van Santen
*Eindhoven University of
Technology*

P. B. Wells
University of Hull

J. T. Yates, Jr.
University of Pittsburgh

Founding Editors: J. H. de Boer and P. W. Selwood



ACADEMIC PRESS, INC.

Harcourt Brace Jovanovich, Publishers

San Diego New York Boston London Sydney Tokyo Toronto

Copyright © 1990 by Academic Press, Inc.

All Rights Reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated, per copy fee through the Copyright Clearance Center, Inc. (27 Congress Street, Salem, Massachusetts 01970), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for creating new collective works, or for resale. Copy fees for pre-1990 articles are as shown on the article title pages; if no fee code appears on the title page, the copy fee is the same as for current articles.

0021-9517/90 \$3.00

MADE IN THE UNITED STATES OF AMERICA

Contents of Volume 121

Number 1, January 1990

Comment on the Analysis of CO Hydrogenation Using the BOC-MP Approach Alexis T. Bell and Evgeny Shustorovich	1
Antio-Differentiating Hydrogenation of 2-Alkanones over Asymmetrically Modified Nickel Catalyst and Its Application to the Preparation of Optically Pure 2-Anols Tsutomu Osawa, Tadao Harada, and Akira Tai	7
Temperature-Programmed Sulfiding Study of NiO-WO₃/Al₂O₃ Catalysts B. Scheffer, P. J. Mangnus, and J. A. Moulijn	18
Temperature-Programmed Reduction Study of Sulfided Co-Mo/Al₂O₃ Hydrodesulfurization Catalysts B. Scheffer, N. J. J. Dekker, P. J. Mangnus, and J. A. Moulijn	31
Preparation and Acidic Properties of Aluminated ZSM-5 Zeolites Kouji Yamagishi, Seitaro Namba, and Tatsuaki Yashima	47
Combined Infrared Spectroscopy, Chemical Trapping, and Thermoprogrammed Desorption Studies of Methanol Adsorption and Decomposition on ZnAl₂O₄ and ZnAl₂O₄ Catalysts Camille Chauvin, Jacques Saussey, Jean-Claude Lavalley, Hicham Idriss, Jean-Paul Hindermann, Alain Kiennemann, Patrick Chaumette, and Philippe Courty	56
Correlation between Low-Pressure Thiophene HDS and High-Pressure Dibenzothiophene HDS Marc J. Ledoux, Cuong Pham Huu, Yannick Segura, and Francis Luck	70
Effects of Oxidation and Reduction Treatments on Methylcyclopentane Hydrogenation over Rh/TiO₂ and Rh/SiO₂ Catalysts R. J. Fenoglio, G. M. Nuñez, and D. E. Resasco	77
Amorphous Substitution of Iron in the Framework of Zeolite ZSM-23 Rajiv Kumar and Paul Ratnasamy	89
Surface Composition and Reactivity of Lithium-Doped Magnesium Oxide Catalysts for Oxidative Coupling of Methane X. D. Peng, D. A. Richards, and P. C. Stair	99
Oxidative Coupling of Methane. I. Behavior and Characteristics of Pb-Mg-O Catalysts S. K. Agarwal, R. A. Migone, and G. Marcelin	110
Oxidative Couplings of Methane, Ethane, and Propane with Sodium Peroxide at Low Temperatures Kiyoshi Otsuka, Yasushi Murakami, Yuji Wada, A. A. Said, and Akira Morikawa	122
Stoichiometry of the Titration by Dihydrogen of Oxygen Adsorbed on Platinum D. J. O'Rear, D. G. Löffler, and M. Boudart	131
Dispersion of Platinum on Pt/Al₂O₃ Model Catalyst in Oxygen Studied by Transmission Electron Microscopy J. M. Rickard, L. Genovese, A. Moata, and S. Nitsche	141
Thermal Desorption and Infrared Studies of Amines Adsorbed on SiO₂, Al₂O₃, MgO, and CaO. I. Diethylamine and Triethylamine Rolf Sokoll, Hartmut Hobert, and Irmtraut Schmuck	153

Studies on Ruthenium–Tin Boride Catalysts. I. Characterization

V. M. Deshpande, W. R. Patterson, and C. S. Narasimhan 10

Studies on Ruthenium–Tin Boride Catalysts. II. Hydrogenation of Fatty Acid Esters to Fatty Alcohols

V. M. Deshpande, K. Ramnarayan, and C. S. Narasimhan 11

On the Role of Surface Hydroxyls during the Cr/SiO₂-Catalyzed Polymerization of Ethylene

W. K. Jozwiak, I. G. Dalla Lana, and R. Fiedorow 18

Alcohol Dehydration over Model Nonporous Alumina Powder

Jeanne L. Swecker and Abhaya K. Datye 19

Ethylene Oxidation on Silver Powder: A Tap Reactor Study

John T. Gleaves, Allen G. Sault, Robert J. Madix, and Jerry R. Ebner 20

Note

Reactions of Radical-Anions and Ethyllithium with Silica

Jan Kratochvíla, Zdeněk Salajka, Antonín Kazda, Zbyněk Kadlc, and Mihnea Gheorghiu 2

Number 2, February 1990

Fourier-Transform Infrared Study of Weak Adsorption of Hydrogen on Pt/SiO₂

Tibor Szilágyi 2

An NMR Study of the Mode of Incorporation of Ethene into Propene in the Fischer–Tropsch Reaction over Cobalt

Livius T. Percy and Robert I. Walter 2

Surface Organometallic Chemistry on Metals. III. Formation of a Bimetallic Ni–Sn Phase Generated by Reaction of a Sn(*n*-C₄H₉)₄ and Silica-Supported Nickel Oxide

M. Agnelli, J. P. Candy, J. M. Basset, J. P. Bournonville, and O. A. Ferretti 2

Modification of Olefin Polymerization Catalysts. III. A ¹³C CP-MAS NMR Study of Adsorption of Silyl Ethers on MgCl₂-Supported Ziegler–Natta Catalysts

Tuula T. Pakkanen, Eila Vähäsarja, Tapani A. Pakkanen, Eero Iiskola, and Pekka Sormunen 2

Skeletal Rearrangement Reactions of Hexanes on Pt₃Ti Polycrystalline Catalysts

A. Dauscher, W. Müller, and G. Maire 2

Characterization of Silica-Supported Cu Monometallic and Ru–Cu Bimetallic Catalysts by Hydrogen Chemisorption and NMR of Adsorbed Hydrogen

X. Wu, B. C. Gerstein, and T. S. King 2

Effective Diffusivities in Zeolites. 1. Aromatics in ZSM-5 Crystals

Sigfrido F. Garcia and Paul B. Weisz 2

Carbonyl Sulphide Adsorption on Supported Rhodium

S. David Jackson and David Winstanley 3

Hydrogenation and H–D Exchange of Chemisorbed Ethylene on Ni(100) under Vacuum

Francisco Zaera 3

Supported Aqueous-Phase Catalysts

Juan P. Arhancet, Mark E. Davis, Joseph S. Merola, and Brian E. Hanson 3

Analytical TEM Study of the Selective Photocatalytic Deposition of Platinum on Titania-Silica Mixtures and Silica-Supported Titania	
Jean-Marie Herrmann and Jean-Louis Mansot	340
Liquid-Phase Catalytic Hydrogenation of Unsaturated Compounds: A New View on Causes of the Zero Order of the Reaction	
Ivo Paseka	349
The Distributions of Supported Metal Catalysts: An Analytical X-Ray Line Profiling Routine	
W. Vogel	356
The Properties of Silica-Supported Bimetallic Fe-Cu Catalysts. Part I. Preparation and Characterization	
A. F. H. Wielers, C. E. C. A. Hop, J. van Beijnum, A. M. van der Kraan, and J. W. Geus	364
The Properties of Silica-Supported Bimetallic Fe-Cu Catalysts. Part II. Reactivity in the Fischer-Tropsch Synthesis	
A. F. H. Wielers, G. W. Koebrugge, and J. W. Geus	375
Deuterium Isotope Exchange Reaction between Hydrogen and Water over Polyester-Supported Platinum Catalysts	
N. M. Gupta, Krishna Mishra, A. D. Belapurkar, K. V. S. Rama Rao, and R. M. Iyer	386
Activity, Selectivity, and Stereochemical Features in the Copper-Catalyzed Hydrocative Ring-Opening of Alkyl-Substituted Cyclopropanes—Nature of Active Sites	
István Pálinkó, Árpád Molnár, János T. Kiss, and Mihály Bartók	396
Promotion by Tetrachloromethane of the Oxidative Coupling of Methane on Silica-Supported Alkaline Earth Oxides	
S. Ahmed and J. B. Moffat	408
Steady-State Kinetics of the CO-N₂O Reaction over an Alumina-Supported Rhodium Catalyst	
Robert W. McCabe and Chor Wong	422
Oxygen Sorption and Catalytic Properties of La_{1-x}Sr_xCo_{1-y}Fe_yO₃ Perovskite-Type Oxides	
H. M. Zhang, Y. Shimizu, Y. Teraoka, N. Miura, and N. Yamazoe	432
Desorption and FTIR Study of Bimetallic Pt-Au/SiO₂ Catalysts	
K. Balakrishnan, A. Sachdev, and J. Schwank	441
Hydrogenolysis and Deuterium Exchange of C₃ and C₄ Primary Alkylamines Catalyzed by Platinum Films	
Simon R. Bockett, John L. Brownlees, Gregory N. McPeak, Sharon Millar, and S. R. Logan	456
Author Index for Volume 121	460

NOTICE

The Subject Index for Volume 121 will appear in the December 1990 issue as part of a cumulative index for the year 1990.

